

Laparoscopic Operation for Treatment of Gastroesophageal Reflux

HEARTBURN AND OTHER symptoms of reflux affect more than 20 million adult Americans. Medical therapy is relatively effective in the acute phase of the disease, but fails to alter its natural history, particularly the tendency to relapse. Recurrent or persistent reflux can seriously damage the esophagus, causing strictures, the development of Barrett's ulcer, and other complications. Thus, the surgical correction of reflux is indicated in patients whose symptoms fail to resolve while they are receiving medical therapy or in those in whom symptoms recur. An operation permanently restores the competency of the cardia in about 90% of patients; nevertheless, gastroenterologists and occasionally patients themselves were heretofore reluctant to proceed with it, mainly because of the pain, discomfort, and risks associated with the operation and its recovery.

Laparoscopic techniques now offer a new alternative. Laparoscopic Nissen fundoplication can be done with relative safety and with good immediate results. When performed by surgeons with experience in the management of esophageal disease and in laparoscopy, this approach yields results that are comparable to those done by the open approach. Indeed, most studies comparing the outcome of patients operated on by the open and laparoscopic approaches show a lower need for analgesics and fewer complications in the patients when done with minimally invasive techniques.

As experience is accumulating, several elements are becoming clear. First, the procedure demands a level of competency in laparoscopy that far exceeds that needed to do a cholecystectomy. Thus, adequate training is paramount, and appropriate supervision and assistance by a qualified surgeon are imperative during the learning period. Second, there is a tendency on the part of patients, as well as some members of the medical profession, to regard the laparoscopic antireflux operation as a relatively minor procedure. Surgeons must carefully guard against this erroneous assumption: the indication for antireflux surgical intervention remains the same. Third, obesity makes the operation particularly difficult, and the increased intraabdominal pressure caused by it may contribute to the development of a postoperative hiatal hernia. Thus, every effort should be made to ensure that an obese patient loses weight before the operation. Last, to perform a good operation, the surgeon must have substantial information about the pathophysiology of the disease and the degree to which the patient is affected. It is not simply a matter of "diagnosis," but one of characterizing and identifying associated problems. Thus, all patients should have a complete workup before the operation. That means, for the average patient, esophageal function testing with manometry and 24-hour pH monitoring and endoscopy with biopsy. Upper gastrointestinal series are helpful because they provide valuable information about the relations of the lower esophagus to adjacent structures.

Reoperations in this area are difficult and the results far inferior to those obtained the first time around. To

avoid them, the surgeon must know the extent to which the disease affects the patient, tailor the operation to the patient's needs, and perform the procedure flawlessly.

Based on an experience gathered over the past five years, we think that this approach offers a new and superior alternative to patients with reflux refractory to medical therapy. In essence, it provides the same time-proven, effective operation to restore the competency of the cardia, with less discomfort and faster return to a normal life.

MIKA SINANAN, MD
CARLOS A. PELLEGRINI, MD
Seattle, Washington

REFERENCES

- Collard JM, de Gheldere CA, De Kock M, Otte JB, Kestens PJ: Laparoscopic antireflux surgery—What is real progress? *Ann Surg* 1994; 220:146-154
- Hinder RA, Filipi CJ, Wetscher G, Neary P, DeMeester TR, Perdakis G: Laparoscopic Nissen fundoplication is an effective treatment for gastroesophageal reflux disease. *Ann Surg* 1994; 220:472-483
- Peters JH, Heimbucher J, Kauer WKH, Incabone R, Bremner CG, DeMeester TR: Clinical and physiologic comparison of laparoscopic and open Nissen fundoplication. *J Am Coll Surg* 1995; 180:385-393
- Weerts JM, Dallemagne B, Hamoir E, et al: Laparoscopic Nissen fundoplication: Detailed analysis of 132 patients. *Surg Laparosc Endosc* 1993; 3:359-364

Laparoscopic Sonography and Staging of Liver Cancer

ULTRASONOGRAPHY DONE at open operation aids the surgeon in detecting and sampling unsuspected liver metastases and guides hepatic resection or ablative treatment such as cryotherapy. Laparoscopic ultrasonography is readily performed and adds materially to the conduct of laparoscopic staging operations aimed at preventing futile laparotomy.

Laparoscopic ultrasound devices usually consist of linear-array transducers operating at frequencies of 6 to 10 MHz mounted on rigid or flexible 10- to 12-mm diameter probes. Flexible probes with transducers operating in the range of 6 to 7.5 MHz are best suited for visualizing the liver. Rigid probes are best suited for doing ultrasound-directed biopsy during which the biopsy needle must be parallel with the longitudinal axis of the transducer. Newer probes that allow the passage of a core or aspirating needle by a needle guide aligned parallel with the beam of the ultrasound waves may minimize the double-fulcrum effect encountered with laparoscopic freehand biopsy.

Patients with primary liver cancer have been shown to benefit from laparoscopic staging. Most will be found incurable by traditional resection because of multifocal disease, peritoneal carcinomatosis, or severe cirrhosis. Most hepatic tumors in western practice are secondary, and many derive from colon or rectal primary tumors. Complete resection or destruction by other means may result in prolonged survival rates in 25% to 35% of a selected group of such patients. Most hepatic resections and cryoablations require laparotomy. The laparoscopic determination of incurability rather than determination at laparotomy results in less morbidity, cost, and time in the hospital.

The technique of the laparoscopic assessment of the liver consists of placing an umbilical and a right-sided